

**Current MOUT Doctrine Enhanced by Elements of
Operational Design – An Imperative for Planning
Future Military Operations in Urbanized Terrain**

**A Monograph
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ABSTRACT

CURRENT MOUT DOCTRINE ENHANCED BY ELEMENTS OF OPERATIONAL DESIGN – AN IMPERATIVE FOR PLANNING FUTURE MILITARY OPERATIONS IN URBANIZED TERRAIN by MAJ Scott F. Hume, 60 pages.

The world is becoming more urbanized and at an unprecedented rate. Some of the greatest factors contributing to increased world urbanization include changes in economies, availability of resources, education, cultural identity and politics. The most significant event contributing to the world's increasing urbanization is the end of the Cold War.

With the end of the Cold War came a significant decrease in the need for U.S. forces to be forward deployed. The end of the Cold War also convinced America and many other nations of the world that the robust size of military forces required for stand guard against communism were no longer required. Subsequently, in the case of the United States, the military was downsized and transformed to a power projection force as opposed to a forward-deployed force.

The end of the Cold War did not end conflict. Belligerents world-wide have quickly come to understand that urban terrain can, in some cases, provide the support no longer forthcoming from Cold War allies. Belligerents have also come to understand that urban terrain can mitigate the use of technology available to modernized opponents such as the United States and her allies.

With the increase in urbanization, the realization of the mitigating effects of urban terrain on modern weapons by belligerents, and the smaller, less-forward-deployed forces of the United States, there is a much increased likelihood that U.S. forces will be called upon to conduct military operations on urbanized terrain.

While the likelihood of U.S. forces conducting military operations on urbanized terrain is increasing, the ability of outdated MOUT doctrine to guide tactical planners in developing courses of action is decreasing. This monograph proves that while current MOUT doctrine is not currently capable of adequately assisting military planners in planning military operations on urbanized terrain, current doctrine enhanced by elements of operational design can.

Two recent combat operations with a significant urban component are analyzed to determine if elements of operational design were used during the planning of the operations. The two combat vignettes analyzed are the U.S. experience in the Republic of Panama

**during Operation Just Cause and the Russian experience in the
Republic of Chechnya.**
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CHAPTER I

INTRODUCTION

Description of World Urbanization Trends

Without question the world is becoming more urbanized. The greatest factors contributing to increased world urbanization include changes in economies, availability of resources, education, cultural identity and politics.¹ One could argue that any of these factors alone could increase urbanization but together, acting as a system, they increase urbanization exponentially and in some case catastrophically. The greatest factor encouraging urbanization is the end of the Cold War. The end of the Cold War has facilitated realizing the potential of each of the factors above to work as a system to maximize (or at the very least significantly increase) world urbanization.²

While economics, education, political environment, availability of resources, geography, cultural identity and migration are most of the causes of urbanization, the end of the Cold War has allowed these causes to develop at a significant pace.³ The fall of the Soviet Union affected urbanization in two distinct ways. First, within the borders of the former Soviet Union, the demise of communism has facilitated freedom of education, change in political and economic structures, reallocation of resources, ability to migrate and ability for previously repressed cultures to attempt reunification. The second effect of the fall of the Soviet Union is the same as the first except on a worldwide scale. Because the superpowers of the U.S. and the Soviet Union had opposed one another for so long, most of the world was divided strictly between each side. Each power placed great emphasis on influencing the nations of the world to accept its power and mitigate the influence of the other. This provided much support and focus to the developing world

by one power or the other. Since the demise of the Soviet Union, it is no longer able to support many of its previous allies. Subsequently, the United States no longer needs to support many of its allies as it once did to prevent the spread of communism. The result is that much of the developing world has been abandoned to its own devices and one consequence is rapid urbanization.

The effect of education on urbanization is interesting. There are three specific aspects of education that affect urbanization. The first is that in some areas of the world where education is increasing, the newly-educated leave the agricultural support base seeking more lucrative jobs in the cities. Often these jobs do not exist and subsequently there develops a new population of unemployed-yet-educated people. This new unemployed-yet-educated population also places greater burdens on local infrastructure thus increasing unrest, and subsequently, governmental burden to keep the peace.⁴

The second educational effect on urbanization is that although the level of education in much of the developing world is rising, the number of uneducated still remains extremely large. In many parts of the world, the rural uneducated are lured to cities by rumors of lucrative jobs. Once in the city the rural uneducated are often disappointed in the same manner as the "newly educated." Frequently this segment of society is unable to return home either for economic reasons, or sometimes for social reasons (disgrace due to perceived failure, etc.). The significant aspect of this growing population or new urban uneducated is that despite their poor economic and educational situation they continue to have large families and thus put increasing strain on local and national infrastructure.

Finally, the combination of the new populations of urban educated and uneducated are a growing stress on infrastructure and government. The often unrecognized outcome of this urban population growth is the negative spiraling effect of discontent when the educated and uneducated are mixed together. The educated have the knowledge to plant the seeds of discontent and the poor nurture discontent, for the hope they perceive it provides. As a result, overburdened governments will be strained until they collapse.

The resources required to sustain mankind play a role in urbanization also. Those resources that are necessary for the basic needs of man, food, clothing and shelter become more strained as a given population increases. An additional effect of urbanization in many countries is that the ability to produce natural resources diminishes as the rural population decreases. Conversely, ever more resources are required in more concentrated regions. It is easy to understand the negatively spiraling effects of urbanization in countries that cannot compensate for the trend. What is not obvious is predicting the point at which the governmental infrastructure will collapse under its burden. Besides the basic needs of humankind, other resources become strained as well. Health care, public safety, transportation, fuel, and education are examples of resources whose deficiencies are often impossible to fix once they become inundated. These are but a few of the paths that lead to urban unrest and therefore possibly military operations in urbanized terrain. As previously discussed, decreased agricultural focus and increased urban focus based on education and economics often lead to strain on infrastructure and therefore lead to political hardship. In these situations, a given nation may not have great wealth and cannot handle the infrastructural strain, which can lead to reduced confidence in the political leadership and increased unrest.

The geography of the world is a significant factor in the equation of ever-growing urbanization. The part of the world currently urbanizing at the greatest rate is south of the equator in Africa, South America and Asia.⁵ These areas are not generally blessed with the greatest agriculture capabilities to begin with, because these regions are deserts or tropical areas becoming desert-like due to de-forestation and resultant thin soil. The terrain in many cases is harsh due to elevation, jungle, and waterways, which preclude

good ground transportation networks. The obvious effects of this are reflected in all the areas of economics, politics and social issues.

The final geographic factor is where large urbanization is occurring on the continents listed. Urbanization is increasing in areas known as littorals. These are areas along the coasts. To sum up the significance of the littoral areas of the world, Lieutenant Colonel Rick Megahan provides some interesting statistics.

Three hundred of the fastest growing cities in the world are traditional port cities with over one million inhabitants. The littoral centers account for 70% of the world's population, house 80% of the international governmental bodies, and over 70% of the planet's nuclear power plants provide power generation for these cities and their suburbs.⁶

World Urbanization and the Implications for U.S. Forces

U.S. forces should expect to conduct military operations in urban terrain. Over the last decade nearly every military operation conducted by the U.S. Army has had an urban component.⁷ This historical fact, coupled with increasing urbanization, tends to show continued avoidance of the topic is not possible. Three additional facts support the unavailability of conducting urban operations. First, rapidly increasing urbanization has had two social effects. As a nation urbanizes it decreases the amount of rural terrain in which military operations can occur. Additionally, as cities grow, resources become more scarce, tensions rise and civil unrest can ensue (in poor countries in particular), in some cases requiring outside intervention.⁸

The second case that would require deployment of forces to an urban area is when an adversary wants to oppose an enemy that can certainly defeat it on the open battlefield. In this case, urban terrain provides an added hedge to a militarily weaker opponent. Urban terrain negates weapons capabilities, provides easier access to the media for the enemy, allows for maximizing rules of engagement against the U.S. where civilians are

concerned, and also provides greater access to cultural, financial, political and social assets.⁹

Finally, due to the force projection nature of U.S. national and military policy, forces will deploy to contingencies through ports and airfields most often in or adjacent to potentially hostile urban terrain. As Major Frank Boynton, United States Marine Corps, states:

... the airfields and ports upon which we depend for force projection are located almost exclusively in urban areas. Should the enemy wish to deny us the facilities for force projection, he could seize and defend the urban area in which they are located and force us to conduct an opposed entry into the urban area. One need only consider the impact of the Iraqi Army seizing and defending the port complex at Al Jubail, Saudi Arabia during Operation Desert Shield to recognize the potentially decisive consequences of such actions.¹⁰

At this point it should be clear that the U.S. Army is deploying to and conducting military operations in urbanized terrain more frequently than ever before. What is not apparent yet is that the doctrine for conducting such operations is outdated. Current U.S. Army Military Operations in Urbanized Terrain (MOUT) doctrine was last updated in 1979 and was quite clearly focused on fighting Soviet forces in Europe. In this respect one may ask how current military operations in urbanized terrain are planned if current doctrine is outdated, and the enemy for which it was written no longer exists? This monograph answers the research question "Can U.S. Army MOUT doctrine be enhanced by elements of operational design to better plan military operations in urban terrain?" This question is answered first by describing the strengths and weaknesses of current U.S. Army MOUT doctrine. Next this monograph discusses elements of operational design and some of their key components. This monograph then compares current MOUT doctrine to a

MOUT doctrine enhanced by elements of operational design. At the conclusion of the comparison the author analyzes two modern urban combat vignettes to determine if elements of operational design were present in the planning of the operation, and whether the use of operational design in conjunction with MOUT doctrine led to success or failure.

Limitations of Scenarios for Which this Study is Valid

This study is intended to enhance current U.S. Army MOUT doctrine by describing methods for the successful prosecution of urban combat in scenarios other than those listed in U.S. Army Field Manual 90-10, *Military Operations in Urbanized Terrain*. Specifically, this study is not intended to make recommendations regarding the conduct of urban operations during total war, where the tactical or operational aim is total destruction or annihilation of the enemy. The total war scenario is covered in FM 90-10 and is considered by the author to be the least likely scenario for the U.S. Army to be involved in the near future. Instead, this study is geared toward the purpose of defining leverage points in urban terrain to defeat enemy forces most likely to be encountered in the near future.

Urban scenarios likely to be faced by U.S. forces will have a number of common characteristics. Urban terrain has a number of appealing factors for enemy forces that do not have the capability to fight the United States on the open battlefield. Enemy forces will gravitate to urban areas because they deny the ability of large field forces to maneuver and because a city provides support and protection to the belligerents. Furthermore, fighting in cities against United States forces provides a more level playing field due to the negation of superior U.S. technology in urban areas.

Other added benefits to engaging U.S. forces in urban terrain are the fact that urban terrain inherently is more costly to fight in, and therefore plays against the high U.S. aversion to casualties. Additionally, cities aid the defender in combat and can provide support for the defending force from the population. Finally, urban terrain can allow belligerents to hide amongst the population, thereby preventing identification from U.S. forces and facilitating unrestricted movement and operation in some cases.¹¹

With respect to the enemy force itself, it would not be as large, well-equipped or as well-led as United States forces, but may have some modern weapons and equipment. This equipment could include tanks, personnel carriers and infantry fighting vehicles and modern air defenses. As well, the enemy may be equipped with military and commercial communications systems, access to local infrastructure communications, modern night vision, thermal imaging devices, radar and other detection systems, artillery and substantial logistics systems.

This study is not limited by the size of an urban area, but rather by the scale of conflict and the size of the enemy force. Essentially this study is inclusive of all scenarios other than general war, which by definition is the "armed conflict between major powers in which the total resources of the belligerents are employed, and the national survival of a major belligerent is in jeopardy."¹² This study is inclusive of all urban operations covered by the definition of conflict that is

a political-military situation between peace and war, distinguished from peace by the introduction of organized political violence and from war by its reliance on political methods. It shares many of the goals and characteristics of war, including the destruction of governments and the control of territory.¹³

This author has already mentioned current trends in world urbanization and the significance of this for the U.S. Army. Discussion focuses on current U.S. Army MOUT

doctrine at the division level, and compares its relevancy to current trends in minimization of collateral damage, safety of non-combatants and soldiers, and ability to complete assigned combat operations in urban terrain expediently. The author then researches the elements of operational design and suggests whether they could be used to enhance current MOUT doctrine. The author uses the following criteria to compare current U.S. Army MOUT doctrine to doctrine enhanced by elements of operational design:

1. Objective. FM 101-5-1, *Operational Terms and Graphics*, verbalizes the Army's definition of objective as "the physical object of the action taken (for example, a definite terrain feature, the seizure or holding of which is essential to the commander's plan, or, the destruction of an enemy force without regard to terrain)."¹⁴ Does current MOUT doctrine give guidance or recommendations to select objectives that will facilitate the selection and achievement of the unit's purpose? This criterion compares MOUT doctrine's ability to guide a division level planner to select appropriate objectives versus doctrine enhanced by elements of operational design.

2. Speed. The speed with which a unit can achieve its assigned purpose in any combat environment can decrease the resources required for mission accomplishment, as well as the number of casualties. This can have a positive impact on national and indigenous support and can minimize collateral damage during operations. Should doctrine facilitate the minimization of time to achieve assigned purpose? This criterion compares the ability of current MOUT doctrine to facilitate the planning of expeditious urban operations versus doctrine enhanced by elements of operational design.

3. Isolation. The definition of isolation in FM 101-5-1 is

A tactical task given to a unit to seal off (both physically and psychologically) an enemy from his source of support, to deny an enemy freedom of movement and prevent an enemy unit from having contact with other enemy forces. An enemy must not be allowed sanctuary within his present position.¹⁵

This criterion compares the ability to isolate enemy forces in urban terrain using MOUT doctrine versus doctrine enhanced by elements of operational design.

4. Assault. The definition of assault in FM 101-5-1 is "the culmination of an attack which closes with the enemy."¹⁶ Assault of an enemy force can come in many

forms and use many different assets and capabilities. This criterion compares the doctrinal view of assaulting enemy forces in urban terrain versus doctrine enhanced by elements of operational design.

This monograph concludes with recommendations for effectively and efficiently planning tactical operations at division level in urbanized terrain using current doctrine enhanced by elements of operational design.

0 CHAPTER II

1 CURRENT U.S. ARMY MOUT DOCTRINE

As a starting point for a description of U.S. Army MOUT doctrine, one must first understand what doctrine is. According to U.S. Army FM 101-5-1, *Operational Terms and Graphics*, doctrine is the set of "fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgement in application."¹⁷ From this one can infer that if doctrine is correct and current, then when used in conjunction with appropriate judgement the outcome of actions taken should support national objectives. It would seem that this definition is universal and should therefore work for the adversary also. Therefore two questions need to be answered in this chapter. The first is whether or not current doctrine is correct and current with regard to universal applicability. The second is whether it will support achievement of national objectives if used correctly.

To understand the essence of military operations in urban terrain, one must first understand the doctrinal definition of urban terrain. U.S. Army *Field Manual 90-10* defines urban terrain as that terrain "which is constantly being modified by man to meet

his needs.”¹⁸ Military operations in urban terrain are doctrinally defined to “include all military actions that are planned and conducted on a terrain complex where manmade construction impacts on the tactical options available to the commander.”¹⁹ These definitions are the verbose way of saying that urban terrain is essentially cities and the purpose of MOUT doctrine is to describe methods of planning and prosecuting successful military operations in cities.

To provide a framework for planning MOUT operations, the U.S. Army has published two manuals on the subject. The oldest, FM 90-10, written in 1979, attempts to describe possible solutions for victory in city fighting from the individual soldier up to and including a corps sized element. The focus of this manual is fighting at the battalion level and higher.

The second of two doctrinal manuals on the topic is FM 90-10-1, entitled *An Infantryman's Guide to Combat in Urban Areas*. This is a tactical level manual designed to describe tactics, techniques and procedures for understanding and successfully fighting in cities at the battalion level and below, with the focus being on the individual soldier and the squad and platoon. While this manual does a better job of describing urban terrain in modern terms than FM 90-10, it still provides virtually no guidance for planning and executing battles and engagements outside the framework of heavy destruction to all sides and the urban surroundings.

U.S. Army MOUT doctrine is written in the typical style of 1970's Army field manuals. The sections are broken into an introduction, offense, defense, utilization of combat support/combat multipliers, followed by brief appendices on tactics, techniques and procedures for the individual soldier. The introduction generally describes the urban

environment, and then becomes more detailed as the description becomes focused on European urban terrain. Each of the main sections (offense, defense) is sub-sectioned into describing enemy doctrinal counter-actions, and then friendly force actions from the corps down to battalion level.

At the time of its writing in 1979, this manual was of limited value. Much of its lack of value can be attributed to the Army's lack of operational cognition. In 1979, operational art and the elements of operational design had yet to work their way into the Army's lexicon, so it is no surprise that the MOUT doctrine reflects the thinking of the day. The Army was also very Euro-centric in its focus and was unwilling to consider operations other than those against the Warsaw Pact nations. Subsequently, this manual was designed to give guidance to those who would fight the next great conflict on the German countryside.

There are a number of things missing from Army MOUT doctrine that makes it of little current value. First, the manual was written before the AirLand Battle Doctrine was developed in the 1986 version of U.S. Army FM 100-5, *Operations*, so it has a very little current professional language and does not completely integrate with overarching U.S. Army doctrine.

Nearly the entire focus of the U.S. Army has changed since the last update of FM 90-10. Current MOUT doctrine as written is completely focused on fighting a high-intensity conflict against the countries of the Warsaw Pact. The only urban terrain described in current MOUT doctrine is that of Europe, specifically Germany, and the only description of enemy tactics is that of the former Soviet Union.

Although it is apparent that the threat upon which current MOUT doctrine is based no longer exists, there has been no update to doctrine. An additional MOUT manual, FM 90-10-1, *An Infantryman's Guide to Combat in Built-Up Areas*, was produced in 1993 and its focus was at the tactical levels below battalion. This manual does a better job of describing the urban environment by eliminating the Euro-centric focus. It describes the urban peculiarities of most other parts of the world.

The missing element in doctrine is the absence of any analysis of fighting throughout the spectrum of conflict, and how to do it in all of the environments throughout the world today. Another missing element is how to conduct intelligence preparation of the battlefield in an urban environment throughout the spectrum of conflict.

The analysis of terrain and enemy forces has taken on new and greater significance in this manner since the publication of current MOUT doctrine. Not only has the Army's regional focus changed, but also has its enemies and their capabilities. American tolerance for the traditionally costly methods of fighting in urbanized terrain has also changed. With the increase of media on the battlefield/area of operations, and with America's ability to have nearly real-time scenes of urban conflict, it is now impossible for the Army to fight as it once had. The people of the United States will no longer allow their soldiers to cause, or become, victims of the brutality and collateral damage normally associated with urban conflict. In the same manner the people of the nation the Army fights in will not be enthusiastic toward the amount of collateral damage traditionally associated with urban combat. Due to the significance of this topic, the

constraints, which are now imposed on U. S. Army forces during urban operations, are discussed in the next chapter.

Strengths of Current Doctrine

The purpose of this chapter was not to deride current MOUT doctrine. It was to determine what portions are still valid, if any, and then determine what additions or changes were necessary to make it of maximum use now and in the future. Now that doctrine for urban operations has been described, one must therefore determine what it does and what it does not do.

Current MOUT doctrine does espouse certain principles that appear to be unchanging. The most important seems to be the phases of conducting urban operations to defeat an opponent. These phases are isolate, assault, and clear.²⁰ This framework, although rudimentary, appears to be useful whether the opponent is an armed enemy and the environment is combat, or the "enemy" is the effects of a natural disaster and the environment is a stability and support operation.

Weaknesses of Current Doctrine

Current MOUT doctrine states that while the description of urban operations in FM 90-10 focuses on a conflict between NATO and Warsaw Pact forces in Europe, the methods of MOUT conduct are still the same regardless of enemy characteristics.²¹ Similarly, the methods of MOUT conduct will remain nearly the same regardless of differences in the architecture, size or location of the urban terrain.²² While some basic MOUT principles may remain unchanged regardless of enemy or terrain characteristics, they are so few that current MOUT doctrine is no longer applicable in many modern MOUT scenarios. The specific weaknesses of MOUT doctrine considered in this study are the failure of doctrine to consider the deployment required by a force projection army,

the significance of fighting an enemy force on its native terrain, consideration of modern limitations and constraints and the factors that make urban terrain complex. The final weakness of current MOUT doctrine considered in this study will be the absence of an example of assessing the urban battlefield as a *system*.

One supposition of FM 90-10 is that U.S. forces undergo urban operations from the march. That means that U.S. forces have already been deployed into the theater and are organized and prepared for combat. In this regard, current doctrine is now outdated. It does not account for the Army's transition to a force projection force and its reliance on ports, airfields or forced entry forces to get into theater.

In this same manner, current doctrine implies that in the NATO/U.S./Warsaw Pact urban engagement scenario, each side either has an equal knowledge of the terrain or that no force holds a significant advantage in knowledge of the given environment. This has not been the case in recent history. In most urban engagements, one side has had a distinct advantage in terrain knowledge. Seldom have two forces fought in urban terrain in which one side was not native, or in which one side had not occupied the terrain long enough to gain a significant advantage in familiarity.

The capstone weakness of current doctrine, however, is that it provides little guidance on how to defeat an enemy in urban terrain based on the likely rules of engagement (limitations), which are discussed in the following chapter. MOUT doctrine fails to provide any suggestions on how to assess the situation with regard to the enemy and then with respect to oneself. It is apparent that urban operations are complex. MOUT doctrine labels them complex because urban terrain has a significant third

dimension as compared to other battlefields. The third dimension of the urban battlefield is the subsurface (basements, subways, sewers, etc.) and super-surface (rooftops, upper levels, etc.) component. This is just one of the factors that makes an urban area complex. Other complexity factors have already been mentioned: non-combatants, enemy capabilities, political environments, infrastructure, type of terrain, economics, religion, etc., to name a few. Not only does MOUT doctrine fail to describe the complexities, nuances and importance of each topic individually, it fails to describe their relationships and interactions with one another. MOUT doctrine fails to view the sub-components of urban complexity as a *system*.

With respect to viewing the urban battlefield as a system, MOUT doctrine does not provide to a planner a path for analyzing the urban environment as a system, or for analyzing the constituent parts of the urban battlefield. Similarly, MOUT doctrine provides little guidance on viewing the enemy as a system, or how to analyze and assess the interface between the physical environment of the urban terrain, the enemy and the friendly force. Naturally, every soldier has learned the acronym OCOKA (observation, concealment, obstacles, key terrain, avenues of approach)²³ as a means to do a rudimentary assessment of his area of operations, but this does not help much in building a detailed view of the enemy. The acronym OCOKA also does not efficiently assist the friendly force in assessing itself or assessing how the enemy views the friendly force. If the enemy was viewed as a system, one could then break his system down to its constituent parts for a thorough analysis. This apparent void in ability to analyze the complexities of urban terrain and the interface of opposing forces in urban terrain can be filled through the addition of elements of operational design to current MOUT doctrine.

Thus far the discussion of the system of the urban environment has consisted of only topics usually associated with a city itself, or conventional combat forces and their operations. What have yet to be discussed are the limitations that the U.S. currently places on military operations. Because of these limitations, it is crucial that a planner consider them when planning operations in what is considered to be the most complex of terrain types.

CHAPTER III

2 LIMITATIONS PLACED ON MODERN MOUT OPERATIONS

In the conduct of military operations, when the aim is short of total destruction or annihilation of the enemy, there have usually been limitations placed on units. As previously mentioned in chapter one, this study is focused on operations short of total destruction of an urban area for the purpose of destroying an armed enemy. This study also assumes that the enemy opposition is equal to or smaller than the size of the force the U.S. is willing to commit and is equally armed (or nearly equal) in quantity and quality of arms to that of the United States. This study addresses urban operations conducted short of total war. Hence, there will be limitations placed on military operations. The following is a short list of limitations the author considers current and unchanging in the near future for the conduct of combat operations in cities.

The first, and in the author's opinion the most significant, is the limitation of collateral damage. By the definition found in FM 101-5-1, collateral damage is defined as "unintended and undesirable civilian personnel injuries or material damage adjacent to a target produced by the effects of friendly weapons."²⁴ There are a number of reasons

for minimizing collateral damage and many of the reasons revolve around the impact collateral damage has on the opinions of the local populace as well as world opinion. Secondly, collateral damage usually produces debris and therefore contributes to reducing mobility that only serves to aid the defender.²⁵

Limitations and constraints with regard to MOUT are significant for a number of reasons.²⁶ They are significant because they usually inhibit the freedom of action of military forces and prevent them from taking the most efficient path to achieving its purpose, increasing the risk under which the force must operate. The second significance of this topic is the complicated interconnectivity of limitations on all forces, missions and purposes.

Military operations in urban terrain have had a tremendous impact on national will in recent history. While Army doctrine espouses MOUT avoidance it is apparently becoming less possible. Regardless of the growing likelihood of armed conflict in urban areas, society is still much opposed. One major reason society, especially American society, is opposed is because of the historically high military casualty rate attached to urban combat. As military casualties rise, U.S. will can easily fade, thus jeopardizing mission accomplishment.²⁷ In response to fading U.S. will, there are often only two broad options. One option is to employ more combat power. This often has the effect of producing more combatant and non-combatant casualties and property damage, which can continue the erosion of will. The other option is to conduct a withdrawal of forces before complete mission accomplishment. There is another factor to be considered when analyzing national will. Historically, urban operations have not taken place in the United States. The will of the nation in which urban combat does take place can react in a

similar manner as American national will. It is not unrealistic to expect that the will of the host nation of the battlefield can fade faster and more severely than American will.

Aside from the effect of urban warfare on U.S. and host nation will, there are other more tangible factors to consider. Because of the nature of the terrain and the risk associated with these operations, excessive firepower has traditionally been the norm as compared to warfare in more open terrain. Naturally, this causes other than human damage. It causes physical damage that can be equated to monetary cost. In truly intense urban combat where the U.S. is the victor, the U.S. is responsible for governing in post-conflict phases. Subsequently, this translates into the costs of feeding and sheltering the new homeless, providing security and medical care, and rebuilding life support and economic infrastructure, which further translates to more time and money required before the commitment ends.

Simply stated, the limitations generally placed on U.S. Army units engaging in combat in urban areas will be to minimize casualties to near zero, minimize non-combatant casualties, minimize collateral damage (often translated to "property damage") (especially to facilities that are normally considered part of infrastructure). Adherence to these limitations can severely decrease the number of options available to the friendly force. Additionally, adherence to these limitations can increase the imminent danger to friendly forces if the enemy does not adhere to them. Consideration of limitations during assessment of the urban environment system and planning of MOUT operations is crucial for success.

CHAPTER IV OPERATIONAL DESIGN

The purpose of this chapter is to describe the essence of operational design. This will properly prepare the reader to compare and contrast the planning of MOUT at the tactical level of war using current MOUT doctrine and MOUT doctrine enhanced by the concepts of two elements of operational design: center of gravity and decisive points.

Before discussing some of the components of operational design, terms must be defined. The first is the operational level of war. The U.S. Army uses the Joint definition of operational level of war:

“The level of war at which campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives within theatres or areas of operations. Activities at this level link tactics and strategy by establishing operational objectives needed to accomplish the strategic objectives, sequencing the events to achieve the operational objectives, initiating actions, and applying resources to bring about and sustain these events. These activities imply a broader dimension of time and space than do tactics; they ensure the logistic and administrative support of tactical forces, and provide the means by which tactical successes are exploited to achieve strategic objectives.”²⁸

As stated earlier this study is not concerned with the operational level of war, but definition of it is made to show the similarity of key elements with the tactical level of war. Namely, at both levels of war there is a linking of subordinate unit purpose in space and time to achieve the objectives of the higher level unit. Therefore, if operational art can and should be used at the operational level of war, then some of the ideas that allow one to view a problem set as an operational artist may be used for the planning and conduct of tactical operations. If this is true, then what is the process by which an operational artist views a military problem?

Dr. James Schneider, who holds the chair of Military Theory at the School of Advanced Military Studies at Fort Leavenworth, Kansas, defines operational art as “ the process by which methods are selected to determine the application and utilization of

combat power - the means - to achieve the desired end."²⁹ This definition further strengthens the author's belief that because there is obviously a requirement "to determine the application and utilization of combat power"³⁰ at the operational level of war, then this process or portions of it should also be applicable to planning at the tactical level of war. This begs the question of "how does one appropriately determine the application and utilization of combat power?" One method is to answer the questions posed by the elements of operational design.

Operational design is alluded to in U.S. Army doctrine but a clear understanding of it is difficult to glean from a single manual or other media. The closest single clear description of operational design comes from U.S. Army FM 100-7, *Decisive Force: The Army in Theatre Operations*. FM 100-7 describes the process this way:

"The theatre strategic and operational concepts that explain operational art and design include center of gravity, decisive points, lines of operation, culminating point, indirect approach, positional advantage and strategic concentration of forces, and deception."³¹

Simply put, the use of the concepts of center of gravity, decisive points, lines of operation, culminating point, indirect approach, positional advantage and strategic concentration of forces, and deception are the framework of the elements of operational design. While all the concepts are part of operational design, the author suggests that understanding the concepts of center of gravity and decisive points by tactical level planners and executors would significantly enhance the chance of successfully planning and conducting MOUT, when coupled with current MOUT doctrine and its attendant social limitations.

The first of these two concepts is the concept of center of gravity. According to FM 101-5-1, the center of gravity is "those characteristics, capabilities or localities from which a military force derives its freedom of action, physical strength or will to fight."³² It is also defined in the same manual as "the hub of all power and movement, on which everything depends."³³ Dr. Schneider quotes FM 100-5 and notes the "concept of centers of gravity is the key to all operational design."³⁴ He further asserts that centers of gravity "may be the key design concept at all levels of military art."³⁵ If true, this would make operational design useful or even necessary for planning *all* military operations.

The concept of center of gravity therefore is the target at which combat power should be applied in time and space in order to negate an opponent's ability to continue to prosecute military operations. The concept is simple enough to understand but hard to apply. The key question for this monograph is "how does one attack an opponent's center of gravity?" This question is answered by the second concept of operational design, known as the "decisive point."

Dr. Schneider describes a decisive point as "any objective that will provide a force with marked advantage over his opponent. The seizure of a decisive point will decide the outcome of the action."³⁶ Dr. Schneider goes on to further describe decisive points by defining three types: the physical, cybernetic and moral. He defines each type as follows:

Physical decisive points are the most well known. These may include key hills, bases of operations, ridges, bridges, towns, a formations or anything that is physically tangible and are extensions of the terrain, whether geological or manmade. Cybernetic decisive points are those which sustain command, control, communications and the processing of information. A cybernetic decisive point might be a communications node, a boundary, a CP, an RPV, commander, staff group, etc. As the name implies, cybernetic decisive points are invariably manmade. The third type of decisive point is the moral decisive point. These sustain the forces morale - their magnitude of will. They might include the will of

the commander, the commander himself, a field hospital, a field bakery, a mail room, a hometown, a religious shrine, etc.³⁷

FM 100-7 asserts that "the enemy center of gravity exists at all levels of war."³⁸

Two things then follow from this assertion. If an opponent at the tactical level of war has a center of gravity, then there are corresponding decisive points whose destruction or control will bring about the prevention of his purpose. One could posit then that preventing the enemy from achieving his purpose should then assist the friendly force in achieving its purpose. Secondly, the concept of center of gravity permeates to units of any size within the tactical level of war. Corps sized units all the way down to the individual soldier in some cases will have a center of gravity. Therefore, the process of assessing the enemy in urbanized terrain through the framework of operational design will enhance a tactical planner's ability to more efficiently and effectively attack an enemy. The following chapter examines the U.S. experience in Panama during Operation Just Cause, and the Russian experience in Chechnya, to illustrate how elements of operational design can enhance MOUT planning and how the absence of operational design during planning can lead to failure.

3

4 CHAPTER V

COMPARISON OF CURRENT MOUT DOCTRINE AND MOUT DOCTRINE ENHANCED BY OPERATIONAL DESIGN

This chapter serves two purposes. First, it compares current U.S. Army MOUT doctrine and MOUT doctrine enhanced by elements of operational design against the four criteria listed in Chapter I. This comparison is intended to reinforce the monograph's purpose that current

doctrine is outdated but has some components of value remaining, and that when coupled with elements of operational design would provide a more useful framework for planning tactical missions in urban terrain.

The purpose of the second portion of this chapter will be to analyze two modern urban scenarios to determine if operational design was used. It then assesses the level of success, or shows that operational design was not used and how its absence led to the resultant failure. The modern operations will be the Russian involvement in Chechnya in 1993-1995, and the United States involvement in Panama in 1990.

Objective

As stated in Chapter I, the Army definition of objective is "the physical object of the action taken (for example, a definite terrain feature, the seizure or holding of which is essential to the commander's plan, or, the destruction of an enemy force without regard to terrain)."³⁹ The question to ask here is whether or not MOUT doctrine provides the means to assist a tactical commander/planner in appropriately selecting objectives for subordinate units. The answer is no. In the doctrinal examples of offense and defense at all levels of command from corps through battalion, there is no description of the process of determining unit purpose or selecting objectives. Even if one were to assume that operational design was used to develop the example scenarios in MOUT doctrine, the process is not described in any way. The objectives assigned to sub-units are not linked to purpose or tasks, and one cannot infer from

doctrinal examples in FM 90-10 that achievement of a unit's purpose supports attainment of objectives of the higher headquarters.

Understanding operational design and applying elements of operational design to MOUT doctrine provides a framework for appropriately selecting objectives in an urban environment. Regardless of whether a unit has the autonomy to determine its own objectives, or if they are specified by a higher headquarters, operational design provides a detailed process by which one can view the obstacle to achieving one's objective. The concept of center of gravity can be used to assist a planner in determining what obstacles prevent attainment of an objective.⁴⁰ In many cases, the obstacle would be an enemy force or capability. Once the obstacle to objective attainment has been properly assessed, then a planner could use the concept of decisive points to determine what action or combination of actions could be used to remove the obstacle.

Before the MOUT planning process is complete, a planner could reverse the viewpoint of his analysis to that of the enemy. This would allow a planner to determine the purpose or objective of the enemy and how the friendly force would be an obstacle to the enemy ability to achieve its objective. Using the concept of decisive points, a planner might determine the approach the enemy would take to achieve its objective. A prudent planner would therefore understand his own vulnerabilities and might be in a better position to protect those vulnerabilities.

Assault

As previously mentioned, the definition of assault is "the culmination of an attack which closes with the enemy."⁴¹ Clearly, if one assumed that urban operations in the future are not avoidable, and that U.S. forces will be compelled to fight in urban areas, then it follows that an assault of some nature will have to occur. In examples of offensive urban operations in FM 90-10, all examples of how to assault defended positions in urban terrain are outdated, as well are the assumptions made in developing the examples.

Examples of the flawed assumptions in the doctrinal offensive scenario are that civilians will have evacuated the battle area. Similarly, if civilians are in the area they will move away from the fighting.⁴² Finally, enemy forces remaining in the example city are there only to delay U.S. forces, and will soon withdraw. If an enemy strong point is encountered, artillery should be deployed to neutralize it before the area is cleared. Only one paragraph throughout the example of nineteen pages is dedicated to the importance of safeguarding facilities considered important for the support of civilians.

What is missing from doctrine is how to think about the assault itself. While different forms of maneuver are mentioned, there is no description of how to view the enemy as well as one's own force in order to select the appropriate form of maneuver. Furthermore, there is no example of how to select and orchestrate appropriate assets in support of the form of maneuver chosen. Absent also is consideration of the impact of the

rules of engagement with respect to minimizing friendly losses and achieving purpose. All of these things are possible when assessing a mission using the framework of operational design, and in particular using the elements of center of gravity and decisive point.

The benefit of using elements of operational design as an enhancement to MOUT doctrine is that a planner is more easily able to understand the options available to his force when assaulting the enemy. The concepts of center of gravity and decisive point aid the planner in determining what aspect of the enemy must be assaulted, if any, and what weapons or capabilities will supply the appropriate effects.

An example of appropriate application of the elements of center of gravity and decisive point to current MOUT doctrine can be described using a generic scenario from FM 90-10. Assuming the objective of the friendly force is within an urban area and is defended by a conventional enemy force which cannot be bypassed, how would the friendly force seize its objective? If the planner attempts to determine the enemy center of gravity he may decide that the ability of the enemy to logistically sustain itself is the center of gravity. Subsequently, the decisive points that could lead to destruction of the enemy's logistics could come be numerous. For instance, logistics convoys could be physically destroyed or prevented from arriving through the employment of obstacles, or through lethal and non-lethal fires. Communications could be assaulted through electronic means, that in-turn could prevent the enemy logistical apparatus from

functioning properly. These courses of action could lead to psychological isolation of the enemy and deprivation of needed supplies to a degree that eventually prevents the enemy from presenting a credible threat any longer. In this example the planner may have been able to assault portions of the enemy without lethal means and therefore would not have violated the rules of engagement. Further consequences of this action could be a deeper support for U.S. forces, because they minimized casualties and collateral damage, as well as strengthened world opinion by virtue of frequent media coverage.

Isolation

Isolation is defined as:

A tactical task given to a unit to seal off (both physically and psychologically) an enemy from his source of support, to deny an enemy freedom of movement and prevent an enemy unit from having contact with other enemy forces. An enemy must not be allowed sanctuary within his present position.⁴³

While the tenet sounds easy enough in concept, the question remains how does one actually do it? The definition itself poses a number of questions that are not doctrinally covered FM 90-10. How does one seal off an enemy from his source of support? What is his source of support? If an enemy has freedom of movement what allows this? If an enemy has contact with other forces friendly to him where, when, and how is it occurring? What is "sanctuary," and if the enemy has it in his present position, what are the factors that give it to him?

Since there is a doctrinal definition for isolation, one would assume that there would be an urban terrain example in urban doctrine. This is not the case. Once again the operational design framework for solving a military problem provides illumination on the subject. If one's purpose is to isolate, then the elements of operational design can be used to determine what will isolate the enemy and what steps need to be taken to accomplish the purpose. Using this framework, one would also assess what the enemy could do to oppose friendly forces, allowing for subsequent plans to prevent this.

MOUT doctrine only describes isolation as necessary in an attack, but not how to plan for it or how to prevent the enemy from isolating the friendly force. Assessment of past battles will show techniques that worked and why, to show how elements of operational design can be used to facilitate this doctrinal tenet.

Speed

There is no doctrinal definition for speed. The scientific definition for speed does not appropriately describe the nuances important when using speed to describe military operations. The length of time an operation takes is of extreme significance. It is influenced by many things and in turn influences many things. Speed in this monograph is meant to encompass not only the rapidity with which military operations on urbanized terrain take place, but also the efficient use of the time in the prosecution of military operations.

In order to understand the influence of speed on an operation, one might first begin by considering how much time is available to conduct a given operation. If acceptable conditions exist for only a certain period of time, then the speed with which forces must conduct a given operation may be finite, and exact planning may be crucial. If the mission is not accomplished with the speed expected, the operation might fail. In order to compensate, additional forces may be employed, which in turn places a greater burden on the logistics systems and may also result in more casualties and other types of damage. In this hypothetical operation, if an inappropriate estimate of speed produces more casualties, then national and international support may fade, coalitions may be severed, and initiative may be lost. The point of this evaluation criterion is that time is important, it is finite, and its judicious use can be imperative. Therefore, if its judicious use is crucial, how does one plan its use and appropriately develop expedient operations without doctrinal guidance? Experience may provide some help, but current MOUT doctrine does not. MOUT doctrine does not provide a framework to estimate the speed with which an operation needs to take place. The implications of speed of an operation and the obstacles that could prevent timely achievement of unit purpose are likewise not covered.

Analysis of an urban environment using current MOUT doctrine and the concepts of center of gravity and decisive point provide a framework that assists in determining the speed with which a military operation must

take place. If a planner is able to appropriately define the centers of gravity and decisive points for his adversary, then estimations of time needed to conduct operations against enemy decisive points can be conducted. As well, the planner can estimate how quickly he must to employ assets or forces to protect friendly decisive points, and for how long they must be protected. These comparisons can lead to analyses of requirements to accomplish missions and allocation of appropriate assets to achieve requirements.

A simple example of the use of operational design in an urban environment with respect to speed can be extracted from Operation Just Cause in 1990. U.S. planners realized that enemy forces could possibly achieve leverage over the United States if the enemy could damage some facilities associated with the operation of the Panama Canal. Planners then estimated what assets could protect key facilities, and also estimated the speed with which they needed to be employed to secure key facilities before enemy forces could influence them. The analysis and subsequent plan were the result of understanding the friendly and enemy centers of gravity and decisive points.

Chechnya

This vignette will describe the Russian military intervention in the Republic of Chechnya between 1994 and 1996, with particular focus on the urban component of combat operations. This vignette will first describe

the historic context of the conflict, the situation that led to Russian intervention, the military intervention, the outcome and an analysis.

The Republic of Chechnya is situated in southwest Russia. It is separated from Turkey by the Republic of Georgia and is about eighty miles west of the Caspian Sea. The area itself is of adequate but not substantial resources. Its economic significance lay in railroads and pipelines that traverse it.⁴⁴

The population of Chechnya was originally made up of various tribes indigenous to the region up through the 1860's, and was bound together through the Muslim religion. The region originally became significant in the 1830's, when trade routes from Russia to the Black Sea traversed Chechnya. Security of these routes was the original reason for which Russia attempted to control the region. Security by the Russians eventually became partial occupation for the purpose of controlling railways and the businesses that railway construction spawn. Subsequently, Russian-owned businesses attracted ethnic Russians. This led to decades of dislike of Russians by ethnic Chechens. Since the 1860's, ethnic Russians have emigrated to Chechnya and have lived in peace, but the strong Chechen disdain for Russia had not diminished at all.⁴⁵

Chechnya started its first modern revolution on 21 August 1991, which was two days after the August coup attempt in the former Soviet Union. It then declared its independence from Russia on 6 September 1991.⁴⁶ A former Air Force General named Dzhokhar Dudayev was asked to assume the role of Chechen president and then was popularly elected.⁴⁷ Immediately thereafter "Russia declared the Chechen elections illegal and the current Chechen regime unconstitutional."⁴⁸

Unrest in the semi-stable new sovereignty was further strained when President Dudayev dissolved the parliament. Armed clashes followed and some opponents were killed. This solidified a Chechen opposition to its new leadership; the opposition asked for Russian assistance to eliminate the Dudayev regime. Russia provided this assistance covertly in the form of military equipment and some military leadership. This opposition was defeated in combat in November 1994 by forces loyal to President Dudayev.⁴⁹

After the defeat of the opposition, Chechens accused the Russians of supporting the opposition, which the Russians denied. The Chechens provided unquestionable proof to the media, which began a long trend of non-credible Russian statements on the situation.⁵⁰

Concurrently with the Chechen/Russian conflict, there was an equally dismal domestic situation going on in Chechnya. Reports indicate that by the time the Russians overtly invaded Chechnya in December 1994, there was virtually a state of lawlessness in Chechnya. A large portion of the populace that was not involved in criminal activity was living close to or under the poverty level.⁵¹

Russian political leadership believed (or at least publicly stated) that the Russian government had a legal obligation to invade Chechnya. Invasion was believed legal on the grounds that it should unseat the illegally-elected Chechen leadership, re-establish law and order for the protection of the population, and to safeguard vital railways and oil pipelines that traversed the area.⁵² The initial plan was to invade Chechnya from three directions in order to isolate it from surrounding republics and to isolate the capital city of Grozny. The ultimate military purpose of the operation was to disarm those forces loyal to Dudayev and restore peace.⁵³

While there is some indication that there was lengthy planning for the operation, it is apparent that some key things were overlooked.⁵⁴ The original plan consisted of the following four phases:

- a. Phase I: (28 November-6 December 1994) Organize the force from MOD and MVD troops.
- b. Phase II: (7-9 December 1994) Move on three axes and establish an inner cordon around the capital city of Grozny and an outer cordon around Chechnya.
- c. Phase III: (10-13 December 1994) Seize Presidential Palace, government buildings, television and radio stations and other important objectives.
- d. Phase IV: (5-10 days) Stabilize the situation and turn control over to internal troops.⁵⁵

The actual invasion of Chechnya began on 11 December 1994.⁵⁶ The following day, the Russian presidential press secretary told the media that Grozny would not be invaded.⁵⁷

Although the operation began on 11 December, it was not until 19 December that the Air Force destroyed the TV tower in Grozny, and 21 December that the last satellite link was cut and finally eliminated local phone communications.⁵⁸ Other infrastructural facilities were attacked or damaged collaterally, such that by 25 December, 80% of Chechnya was without electricity and 50% was without gas.⁵⁹

On 31 December 1994, ground forces began an invasion of Grozny. The initial tactical objective was to seize the railway station. The ultimate objective was to seize the presidential palace and isolate the city. The palace was not seized until 19 January 1995 and the city was not sealed off until 22 February 1995. Seizure of the palace and

isolation did not equate to controlling Grozny. Although the city was surrounded and Russian forces were in the city, they were still strongly opposed by remaining Chechen forces.⁶⁰

By May 1995, Russian forces controlled the main Chechen cities and towns, but the fighting had merely moved into the mountains. The Chechens would not surrender.

5 Analysis of Russian Military Operations in Chechnya

Objective

The purpose of Russian intervention into Chechnya was to disarm those loyal to President Dudayev in order to re-establish firm political control of the region and to ensure protection of the crucial railways and pipelines in the Republic. The tactical objectives originally chosen to facilitate this purpose were the inner and outer cordons of the capital city and the Republic in order to convince the opposition that fighting was futile.

It would appear that operational design was not used by virtue of the poor assessment of the enemy and friendly forces. Forces loyal to Dudayev were clearly well-armed and dedicated to their cause by virtue of their current actions and historic trends. The Russian leadership did not assess the enemy in this regard accurately. As well, Russian leadership did not accurately assess the capability of their own forces in a number of areas. Poor training, equipment, morale and sheer number of forces deployed were inappropriate for the stated purpose and objectives.

Speed

The Russian ground force commander, General Grachev, publicly stated that one airborne brigade could achieve the military purpose of the intervention in two hours.⁶¹ The fact that it took seventeen months to achieve limited objectives that were consistently modified indicates that the center of gravity and the decisive points to achieve were not properly identified. It is also clear that the Russian planners did not assess their own center of gravity and the associated decisive points. One clear example of this is the inability of Russian forces to enter the areas around Grozny to isolate it. Snipers, small groups of armed Chechen rebels, unarmed ethnic Chechens and refugees, low morale

and inclement winter weather banded together to virtually stop the approach of mechanized and armed columns to the area.

The inability to assess themselves, the opposition and all other factors that could influence the speed with which the initial operation was to take place produced an environment of confusion and frustration. As progress of Russian ground forces slowed the purpose and value of the operation became more closely scrutinized. All sides incurred more casualties, inflicted and received more damage and consumed more resources. Essentially the whole issue of speed was poorly examined with reference to that which could facilitate or hinder speed. This produced a negative spiraling effect that lit the path to virtual disaster.

Isolation

The appreciation for the principle of isolation was apparent in the planning of this endeavor. The original plan revolved around the isolation of the capital city of Grozny, and therefore the armed enemy within it. On this account there were a number of failures. It took significantly longer to physically isolate Grozny than expected. Isolation of the city was expected to separate the enemy physically and psychologically from his support base. While the physical isolation would have had some benefit, the Russian military leadership did not appropriately assess the attitude and beliefs of the enemy or their relationship to local non-combatants. Physical isolation in this case did not equate to psychological isolation, and physical isolation took so long that a large portion of the enemy was allowed to escape. In some cases at the small unit level, Russian soldiers were much more effectively the victims of isolation than were the Chechens.

With regard to the criterion of isolation, one could argue that planners used the elements of operational design when planning combat operations around the city of Grozny. If operational design was used it appears that an appropriate center of gravity was selected. The center of gravity appears to have been the logistics and communications capability of the Chechen rebels with other rebel forces outside the city of Grozny. At this point in the Russian analysis it appears that the use of elements of operational design was improperly used, if at all. The decisive points that would lead to the center of gravity of isolation were disregarded or poorly understood. There are a number of examples to support this. First, there was no mention or example of an attempt to isolate the rebels from the population. This was obviously one crucial step necessary for isolation of the rebels. Secondly, Chechen capabilities were inappropriately assessed and subsequently inappropriate forces were allocated to attempt physical isolation of the city.

Assault

The failure of Russian units to assault objectives in urban areas of Chechnya came from two sources. During planning the military leadership did not properly assess the capabilities of the Chechen fighters and their equipment. The other source of failure under this topic was due to poor training and the inability to combine infantry and armor appropriately. Many Russian units did not understand how well armed the opponent was, and the capabilities of the opponent's systems.

Early in the fighting around Grozny small teams of Chechens used rocket-propelled grenades to separate the Russian infantry from supporting armor, and then destroyed both in succession. This scene was repeated many times. The Chechen fighters launched their weapons from locations that armored vehicles were unable to fire at.

It appears that some use of the elements of operational design were present during the analyses of what objectives to assault and how to assault them, but the analysis was not thorough. As an example, it appears that the assault on the capital building in Grozny was an attempt to conquer a decisive point that supported the center of gravity of isolating the rebels from the popular support of native Chechens. The analysis apparently did not conduct an analysis one more level down to determine the center of gravity and decisive points of the rebel forces that were known to be defending the capital building. Subsequently, intermediate objectives enroute to seizing the capital building were not achieved, or were very costly.

Chechnya Summary

The Russians appeared to conduct a detailed analysis of their enemy in Chechnya, but did not analyze themselves or did not admit the reality of their analysis. Their actions reflect what appears to be their analysis. Planners selected objectives that one would normally associate with decisive points in urban terrain such as the railway station and the capital building.⁶² Apparently, planners or leaders did not appropriately analyze the path to obtaining these objectives. Subsequently, units employed inappropriate force quantity and force type on many objectives which led to high casualties on all sides and did not achieve desired purpose. Subsequently, rules of engagement were often violated out of frustration, further exacerbating already bad situations. The Chechen rebels appeared to have done a much better job of analyzing the Russians and did strike many unprotected Russian vulnerabilities. Examples of this are the Chechen ability to separate tanks from infantry and then destroy each force in succession, in some cases maintaining such close proximity to Russian forces that supporting arms could not be used because of fratricide likelihood.

Operation Just Cause

In 1903 Panama gained its independence from Colombia, and shortly after allowed the United States to begin construction of the Panama Canal.

From the commencement of Panama Canal construction to the execution of Operation Just Cause on 20 December 1989, the U.S. had maintained a significant presence in the country.⁶³ At the conclusion of canal construction in 1914, the military remained to protect this strategic asset. As technology matured through the following decades, the strategic value of the Canal began to diminish. Concurrently, as the value of the Canal to the U.S. diminished, Panamanian opposition to U.S. presence increased. In 1977, the U.S. agreed to remove all presence from Panama by 1999, although the U.S. maintained its authority to defend the Canal should operation be interrupted.⁶⁴

Although the apparent opinion of the population of Panama was that the departure of U.S. presence was good, their opinion changed shortly after the rise of Manuel Noriega to national power. For nearly three decades, Manuel Noriega had been a known "wild card" in the ranks of the Panamanian army. Through the years of his military service, he had trained often with the U.S. military. As a senior ranking intelligence officer, he often supplied useful information to various U.S. agencies. While Noriega occasionally provided useful intelligence, he was also known, or at least suspected, to be involved in illegal activities. Throughout the 1970's and 1980's, Noriega used his military influence to support and be supported by the country's often changing head of state. In 1981 President Torrijos, a strong Noriega supporter, died.⁶⁵ By this time Noriega was the head of Panamanian intelligence. Through force, he made himself the commander of the nation's military. Noriega assisted in the posturing of the next president and by 1983 had become the national leader. Panamanians later accused Noriega of involvement in the

death of President Torrijos and other political opponents.⁶⁶ The U.S. also suspected the close connection of Noriega with the Medellin drug cartel and the governments of Cuba and Libya.⁶⁷ Noriega was never extremely popular in Panama; he was disliked because he increasingly came to be seen as a self-servient dictator, oppressor of the people and singularly responsible for the collapse of the economy. This opinion was solidified when he nullified the presidential election in which someone else was popularly elected. Through coercion, illegal rigging of elections and other various tactics, he positioned himself to seize power as a military dictator on 16 December 1989.⁶⁸

Because the U.S. had agreed to turn over the entire of the Panama Canal Zone in 1999, Panamanian forces were allowed to begin occupation of some U.S. installations. In many cases, Panamanian Defense Force (PDF) soldiers were living, working and training on U.S. installations, sometimes just across the street from U.S. troops and families. The proximity of PDF troops to Americans in some cases increased tensions and provided a threatening environment of continuous, random harassment.⁶⁹ This harassment culminated with the murder of a Marine Corps officer and the molestation and beating of a Naval officer and his wife.

While contingency plans for possible military intervention had been reviewed and updated periodically over the years, specific plans to end the tyranny in Panama began development in earnest in May 1989.⁷⁰ The objective of military intervention was to "safeguard 30,000 U.S. citizens residing in Panama; to protect the integrity of the Panama Canal and 142

U.S. defense sites; to help the Panamanian opposition establish genuine democracy; to neutralize the PDF; and to bring Noriega to justice."⁷¹

When translated to tactical objectives, nearly all of these had an urban component. The tactical objectives were all major airfields, military and civilian; protection of most U.S. bases; protection of the Panama Canal and all of its significant infrastructure (power stations locks, etc.); major bridges; neutralization of Panamanian troops and facilities; and capture of Manuel Noriega.⁷²

The plan to attain the objectives would use the many of the ten thousand U.S. military forces in Panama, in addition to another twelve thousand troops employed by various means. The most notable employment of troops into Panama was by airborne assault. The objective not initially achieved was the capture of Noriega; realization of this objective occurred four days after the invasion began.⁷³ The resultant human cost was 26 Americans killed in action, 352 Panamanians (mostly civilians) killed, 324 Americans wounded and over 3000 Panamanians wounded.⁷⁴

Objective

The objectives of this operation have already been discussed. What is significant is the analysis that translated NCA guidance and operational objectives into attainable tactical objectives for military forces. During this analysis planners made some key assumptions. First, planners assumed the operational center of gravity to be Manuel Noriega and the PDF.

Second, elimination of Noriega and the PDF would facilitate realization of the remaining objectives. Planners then conducted a more specific analysis of the PDF and made more refined assumptions. First, planners assessed the PDF to be large and adequately armed, and subsequently considered command and control to be centralized and therefore initiative within the force would be limited. This assumption translated into a requirement to eliminate key leaders and command and control facilities in order to paralyze and psychologically isolate the PDF. Secondly, the PDF could achieve some leverage against the U.S. by taking U.S. prisoners or causing casualties to U.S. forces. The PDF could also achieve leverage by causing damage to or seizing key canal facilities or urban lines of communication (bridges, rail lines etc.).

Finally, U.S. planners conducted an assessment to determine its own vulnerabilities. The purpose of this assessment was for U.S. planners to view themselves from the PDF's perspective in order to determine tactical objectives that could be chosen by the enemy. U.S. vulnerabilities and leverage possibilities for the enemy included the exfiltration or escape of Noriega, high collateral damage to urban infrastructure and high non-combatant casualties.

United States military planners analyzed the enemy appropriately, and correctly determined the enemy center of gravity and the decisive points that would allow attack of the center of gravity. Subsequently, planners translated decisive points to tactical objectives and appropriate

forces and equipment were tasked for their destruction. Planners also analyzed the situation of friendly forces which allowed appropriate U.S. forces to be allocated to protect U.S. decisive points leading to the U.S. center of gravity.

Speed

Current MOUT doctrine covers the issue of speed poorly. The speed with which military forces conduct an operation is crucial, especially in urban terrain. Speed can encompass such subsidiary topics as tempo, simultaneity and sequencibility of operations, as well as reaction times of enemy units and the speed with which the enemy can process, communicate and act on information. There is little information to assist a planner in determining how fast an operation needs to be conducted.

In the case of Operation Just Cause, if planners had used only the current MOUT doctrine without the benefit of the elements of operational design, the friendly and enemy centers of gravity and decisive points might not have been determined. The inability to determine these crucial targets and understand the relationships between them allowed the U.S. planners to deploy forces of appropriate size and capability to attack selected targets before the enemy could react. Likewise, forces of appropriate size were able to be deployed appropriately in time and space to protect other vital friendly force interests before the enemy could attack them and achieve leverage over U.S. forces.

Isolation

The examples of isolation in current MOUT doctrine would lead the reader to believe that surrounding an enemy force is the only way to isolate it. MOUT doctrine describes the isolation process by suggesting that the first step is to target ground lines of communication with indirect fires and other lethal fires. In this example, the purpose of fires is to prevent enemy forces from resupplying and repositioning. Once the enemy force is denied freedom of maneuver, the urban terrain occupied by the enemy is then surrounded. There is little else in doctrine that would suggest that there could be any other case or method of isolation. MOUT doctrine does suggest that there is a psychological aspect to isolation, but gives no depth to the discussion of psychological isolation.

During the planning of Operation Just Cause, it became apparent that nearly all tactical objectives were in urbanized terrain and that not all objectives could be physically surrounded to achieve isolation. Therefore, if isolation of an objective was crucial and it could not be surrounded, other methods were needed. This line of analysis led to ideas such as separating enemy units from reinforcing units, separating enemy units from higher headquarters, separating units from escape routes and separating enemy from their ability to attain leverage over the operation (i.e., destroy key facilities, take hostages, etc.). Selection of tactical objectives, methods of assault of selected objectives, the speed with which tactical objectives would be influenced and the method of isolation were all analyzed and compared against the others to ensure success.

Assault

Current MOUT doctrine it assumes that any assault to secure a foothold will be against an enemy in a static defense.⁷⁵ Clearly this was not the case in Panama. Although some type of assault to seize terrain from which to operate from was clearly necessary, was it a "foothold." Since there was no static defense to penetrate or otherwise defeat, was a foothold still necessary? What would constitute a foothold? There is no clear answer to this question in current doctrine, but operational design did provide some answers. After using elements of operational design to determine the tactical objectives, planners further used operational design in the assessment of what enemy capabilities existed at each objective, and the relationship of enemy capabilities by objective to other objectives. This analysis allowed planners to array superior forces against each necessary tactical objective. The result of this method of planning was that many different types of forces were used during the operation. Airborne forces were used to seize key airfields. Light infantry forces protected key facilities and assaulted targets in urban areas. Mechanized infantry units were included in the force mix as well as armored vehicles, attack helicopters and U.S. Air Force attack aircraft. Contrary to MOUT doctrine's recommendation on the use of artillery, there was no record of any being used, apparently due to its collateral damage implications, and the numerous non-combatants in the area.

The use of elements of operational design is apparent in the review of Operation Just Cause. Planners accurately assessed the enemy's capabilities and vulnerabilities as well as U.S. capabilities and vulnerabilities. This allowed planners to allocate enough forces to overwhelm the enemy on each objective and to allocate the appropriate support systems for each U.S. force. This analysis also integrated the effects of all U.S. combat actions on the population, and the effects of population on combat operations. Essentially, U.S. planners assessed both enemy and friendly centers of gravity and decisive points, and used the applicable principles of MOUT doctrine to achieve the appropriate purpose at each objective by allocating appropriately designed force packages and support packages.

CHAPTER VI

6 CONCLUSION

This monograph has shown that current U.S. Army MOUT doctrine can be significantly enhanced by elements of operational design to better plan military operations in urban terrain at the tactical level of war. Current U.S. Army MOUT doctrine is not completely adequate for planning tactical military operations in urbanized terrain. While some of the principles described in FM 90-10 are still applicable to conducting military operations in urbanized terrain, the examples used to illustrate doctrinal principles are outdated and of little value. If current MOUT doctrine were used in conjunction with the elements of operation design described in this monograph, a

planner would have a better framework with which to more effectively and efficiently plan urban combat operations.

The ability to use the concepts of center of gravity and decisive points allows a planner to consider all the components of the urban environment system and the relationship between components. By using elements of operational design during planning, a planner is forced to consider aspects of the enemy force, the friendly force, the terrain as well as any other force that affects each of the other components. This prevents a planner from becoming overly enemy- or terrain-oriented, and also prevents the planner from not assessing the friendly force. Coupling the elements of operational design described in this monograph with current MOUT doctrine during planning will greatly increase the chance of success while conducting military operations in urbanized terrain in the future.

7 CHAPTER VII

8 RECOMMENDATIONS

Current U.S. Army MOUT doctrine should be updated to include a description of the concepts of elements of operational design. Additionally, MOUT doctrine should use modern examples of how the elements of operational design have been used in the planning of a modern successful operation with a significant urban component. Operation Just Cause would make a superb example. Furthermore, current doctrine should be updated with an analysis of a fictional urban scenario, much like something that is possible in the foreseeable future, using current doctrine and elements of

operational design. More specific recommendations for modernization of current MOUT doctrine are as follows:

Consideration of Indigenous Population and Rules of Engagement

Any force attacking into an urban area must do two things with regard to local population to ensure success. The attacking force must convince the population that it is a supporter of the population, and not an invader. It must further have a plan to ensure that the population maintains this view. Current doctrine provides no discussion of this topic, but enhanced with elements of operational design, will assist urban combat planners with this task.

9 Force Ratio/Force Allocation/Force Type

Combat operations in urban terrain traditionally require large numbers of infantry and armor units supported by artillery. This is supported by current MOUT doctrine. Other combat multipliers are mentioned, but in general terms. With the use of elements of operational design during the planning process, planners should be able to analyze the urban environment to optimally allocate forces and capabilities to tasks. For instance, not every urban combat environment will require a three-to-one advantage in troop strength over the enemy to be successful. The ratio of combat troops may be less if other non-lethal assets are employed, like psychological operations troops or electronic warfare assets, to conduct tasks traditionally associated with infantry.

10 Training Level of the Force

This monograph has shown that current MOUT doctrine is outdated, but by combining elements of operational design with MOUT principles that are still valid, effective and efficient urban operations can still be planned. Although this monograph

proves that urban operations can be planned successfully, no urban operations can be executed without a well-trained and motivated force. Therefore MOUT training must be promoted to ensure the force has the skills to execute urban combat plans.

Conclusive evidence proves that the amount of urbanized terrain in the world is increasing. Based on this evidence many experts predict that armed conflict in urbanized terrain is unavoidable for U.S. forces. If military planners assume this to be true, it follows that current MOUT doctrine must be examined in order to understand what portions are still of value and what are outdated. Planners must then understand the elements of operational design discussed in this monograph. The merging of the theory presented herein and those portions of MOUT doctrine that are still of value can assist planners in developing effective and efficient military operations in urbanized terrain.

BIBLIOGRAPHY

Books

- Allard, Kenneth. *Somalia Operations: Lessons Learned*. Washington DC: National Defense Press, 1995.
- Baker, Caleb, Thomas Donnelly, and Margaret Roth. *Operation Just Cause: The Storming of Panama*. New York: Macmillan, Inc., 1991.
- Behar, David, Godfrey Harris, and Ross Simpson. *Invasion: The Destruction of the Noriega Regime in Panama*. California: The Americas Group, 1990.
- Bowden, Mark. *Blackhawk Down*. Philadelphia, Philadelphia Enquirer, 1997.
- Briggs, Clarence E. *Operation Just Cause, Panama December, 1989: A Soldiers Eyewitness Account*. Harrisburg: Stackpole Books, 1990.
- Brooks, Linton F. and Arnold Kanter. *Intervention Policy for the Post Cold War World: New Challenges and New Responses*. New York: W. W. Norton and Company, 1994.
- Brunner, Borgna. *The Time Almanac 1999*. United States, Informaton Please, 1999.
- Ciment, James and Immanuel Ness. *The Encyclopedia of Global Population and Demographics*. New York: M.E. Sharpe INC., 1999.
- Clark, Walter S. *Somalia: Background Information on Operation Restore Hope, 1992-1993*. Carlisle Barracks: US Army War College, 1992.
- Cuthbert, S.J. *We Shall Fight in the Streets*. Boulder: Panther Publications, 1965.
- DeLong, Kent and Steven Tuckey. *Mogadishu! Heroism and Tragedy*. Westport: Praeger, 1994.
- Flanagan, Edward. *Battle for Panama: Inside Operation Just Cause*. Washington DC: Brassey's (US) Inc., 1993.
- Ghalib, Jama Mohamed. *The Cost of Dictatorship: The Somali Experience*. New York: Lillian Barber Press, 1995.

Griffith, Samuel B. *Sun Tzu. The Art of War*, New York: The Oxford University Press, 1963.

Hittle, J.D. *Jomini and His Summary of The Art of War. A Condensed Version*. Pennsylvania: Stockpole Books, 1987.

Howard, Michael and Peter Paret. *Translation of Carl Von Clausewitz On War*. New Jersey: Princeton University Press, 1976.

Lyons, Terrence and Ahmed Samataar. *Somalia: State Collapse, Multilateral Intervention and Strategies for Political Reconstruction*. Washington DC, The Brookings Institution, 1995.

Metz, Steven. *America in the Third World: Strategic Alternatives and Military Implications*. Carlisle Barracks: US Army War College, 1994.

Sahoun, Mohamed. *Somalia: The Missed Opportunities*. Washington DC, United States Institute of Peace Press, 1994.

The International Institute for Strategic Studies. *The Military Balance*. London, Oxford University Press, 1998.

_____. *Consequences of Abyssinian Colonialism*. Mogadishu, The Government of the Somali Democratic Republic, Mogadishu, 1979.

_____. *Operation Just Cause: The Human Cost of Military Action in Panama*, Boston: Physicians for Human Rights, 1991.

Government Publications and Studies

US Department of Defense. Field Manual 100-5, *Operations*. Washington DC: HQ Department of the Army, June 1993.

US Department of Defense. Field Manual 100-7, *Decisive Force: The Army in Theatre Operations*. Washington DC: HQ Department of the Army, May 1995.

US Department of Defense. Field Manual 90-10, *Military Operations in Urbanized Terrain*. Washington DC: HQ Department of the Army, June 1979.

US Department of Defense. Field Manual 90-10-1, *An Infantryman's Guide to Combat Operations in Urban Terrain*. Washington DC: HQ Department of the Army, May 1993.

US Department of Defense. Field Manual 7-98, *Operations in a Low-Intensity Conflict*. Washington DC: HQ Department of the Army, May 1993.

US Department of Defense. Field Manual 90-8, *Counterguerilla Operations*.
Washington DC: HQ Department of the Army, May 1993.

US Department of Defense. Field Manual 100-25, *Doctrine for Army Special Operations Forces*. Washington DC: HQ Department of the Army, December 1991.

US Department of Defense. Field Manual 7-85, *Ranger Operations*. Washington DC: HQ Department of the Army, 1987.

TRADOC PAM 525-200-5, *Depth and Simultaneous Attack*. Washington DC: HQ Department of the Army, June 1994.

National Security Strategy, The White House, October 1998.

National Military Strategy, Chairman, The Joint Chiefs of Staff, 1997

Operation Just Cause, Joint History Office, Washington DC: HQ Department of the Army, 1995.

Soldiers in Panama, Stories of Operation Just Cause, Washington DC: HQ Department of the Army, 1989.

United States Special Operations Forces Posture Statement, Washington DC: HQ Department of the Army, 1998.

United States Army Posture Statement, Washington DC: HQ Department of the Army, February 1998.

Glenn, Russel W., *Combat in Hell. A Consideration of Constrained Urban Warfare*. California: RAND, 1996.

Glenn, Russel W., *Denying the Widow Maker*. California: RAND, 1998.

Glenn, Russel W., *Marching Under Darkening Skies*. California: RAND, 1998.

Glenn, Russel W., *We Band of Brothers*. California: RAND, 1999.

Katz, Phillip P. and R.D. McLaurin. *Psychological Operations in Urban Warfare: Lessons from the 1982 Middle East War*, Maryland: Aberdeen Proving Ground, U.S. Army Human Engineering Laboratory, 1987.

Articles

- Allard, Kenneth C. "Lessons Unlearned: Somalia and Joint Doctrine." Joint Force Quarterly, (Autumn 1995).
- Billingsley, Dodge. "Truce Means Nothing in Western Georgia," Jane's Intelligence Review, (June 1998).
- Celestan, Gregory J. "Red Storm: The Russian Artillery in Chechnya," Field Artillery, (January - February 1997).
- Cohen, Joshua T. "MCML Media Day Demonstrates Urban Warrior MOUT Training," Marine Corps Gazette, (December 1997).
- Crabb, Andrew L. "Urban Patrolling Doctrine: Missng in Action?," Marine Corps Gazette, (August 1997).
- Daniels, James B. "Mechanized Forces in MOUT: M113 Lessons from Operation Just Cause," Infantry, (May - June 1996).
- Denning, Gary M. "Graduating From Sun Tzu," Proceedings, (November 1993).
- Gangle, Randolph A. "The Foundation of Urban Warrior," Marine Corps Gazette, (July 1998).
- Geibel, Adam. "Lessons in Urban Combat, Grozny, New Years Eve, 1994," Infantry, (November-December 1995).
- Hash, Charles H. and Donald F. Roskoz,. "Changing the Mindset; Anti-Terrorism and Force Protection," Joint Force Quarterly, (3 December 1998).
- Huber, Thomas M. "Claiming the Night: Operation Just Cause, 1989-1990," Combined Arms in Battle Since 1939, 1992.
- Izzo, Lawrence L., and James J. Schneider. "Clausewitz's Elusive Center of Gravity," Parameters, (September 1987).
- Lasswell, James A. "Wall to Wall," Armed Forces Journal, (January 1998).
- Lieven, Anatol. "The World Turned Upside Down: Military Lessons of the Chechen War," Armed Forces Journal, (August 1998).
- Milton, T.R. "Urban Operations: Future War," Military Review, (February 1994).
- Peters, Ralph. "Our Soldiers, Their Cities," Parameters, (Spring 1996).

Peters, Ralph. "The Future of Armored Warfare," Parameters, (Autumn 1997).

Podlesny, Robert E. "MOUT: The Show Stopper," Proceedings, (February 1998).

Rosenau, Douglas A. "Every Room is a New Battle: The Lessons of Modern Urban Warfare," Studies in Conflict and Terrorism, (Volume 20, Number 4, 1997).

Schenkel, Gary W. "The Transition from Hunter to Urban Warrior," Marine Corps Gazette, (December 1997).

Van Riper, Paul K. "A Concept for Future Military Operations on Urbanized Terrain," Marine Corps Gazette, (October 1997).

Yates, Lawrence A. "Planning: Operation Just Cause, December 1989." Combined Arms in Battle Since 1939, 1992

Yates, Lawrence A. "Political Factors: The U.S.--Panama Crisis, 1987-1990." Combined Arms in Battle Since 1939, 1992

Monographs

Dormeyer, Michael J. "Adequacy of Doctrine for Armor in MOUT," Fort Leavenworth, Kansas, Command and General Staff College MMAS Thesis, 1983.

Everson, Robert E. "Standing at the Gates of the City: Operational Level Actions and Urban Warfare," Fort Leavenworth, Kansas, School of Advanced Military Studies Monograph, 1995.

Francey, Richard M. "The Urban Anatomy: The Fundamentals of a City," Fort Leavenworth, Kansas, School of Advanced Military Studies Monograph, 1995.

Goligowski, Steven P. "Future Combat in Urban Terrain: Is FM 90-10 Still Relevant?," Fort Leavenworth, Kansas, School of Advanced Military Studies Monograph, 1994.

Goligowski, Steven P. "Operational Art and Military Operations on Urbanized Terrain", Fort Leavenworth, Kansas, School of Advanced Military Studies Monograph, 1995.

Hain, David B. "Sufficiency of Doctrine for the Use of Armor in Military Operations on Urban Terrain," Fort Leavenworth, Kansas, Command and General Staff College MMAS Thesis, 1994.

James, William T. "From Siege to Surgical: The Evolution of Urban Combat from World War II to the Present and its Effect on Current Doctrine," Fort Leavenworth, Kansas, Command and General Staff College MMAS Thesis, 1998.

Latimer, John C. "Considerations for Operations on Urban Terrain by Light Forces," Fort Leavenworth, Kansas, Command and General Staff College MMAS Thesis, 1985.

O'Connell, James W. "Is the United States Prepared to Conduct Military Operations in Urbanized Terrain?," New Port, Rhode Island, Naval War College, 1992.

Preysler, Charles A. "Going Down Town: The Need for Precision MOUT," Fort Leavenworth, Kansas, School of Advanced Military Studies Monograph, 1994.

Preysler, Charles A. "MOUT Art Operational Planning Considerations for MOUT," Fort Leavenworth, Kansas, School of Advanced Military Studies Monograph, 1995.

Schneider, James J. "Theoretical Paper No. 3, The Theory of Operational Art," Fort Leavenworth, Kansas, School of Advanced Military Studies Monograph, 1988.

Articles From Internet

The Battle of Grozny: Deadly Classroom for Urban Combat, Timothy L. Thomas
<http://call.army.mil/call/fmso/fmsopubs/issues/battle.htm>

Changing Russian Urban Tactics: The aftermath of the Battle for Grozny, Lester W. Grau
<http://call.army.mil/call/fmso/fmsopubs/issues/grozny.htm>

Why the Russian Military Failed in Chechnya, MAJ Raymond C. Finch III
<http://call.army.mil/call/fmso/fmsopubs/issues/yusfail/yusfail.htm>

Wounded Bear: The Ongoing Russian Military Operation in Chechnya, MAJ Gregory J. Celestan
<http://call.army.mil/call/fmso/fmsopubs/issues/wounded/wounded.htm>

The Caucasus Conflict and Russian Security: The Russian Armed Forces Confront Chechnya Part One, Section Two: Military Activities of the Conflict During 11-31 December 1994. Timothy L. Thomas.
<http://call.army.mil/call/fmso/fmsopubs/issues/chechpt2.htm>

The Caucasus Conflict and Russian Security: The Russian Armed Forces Confront Chechnya Part One, Section One: From Intervention to the Outskirts of Grozny (Military-Political Events from 11-31 December 1994). Timothy L. Thomas.
<http://call.army.mil/call/fmso/fmsopubs/issues/chechpt1.htm>

The Caucus Conflict and Russian Security: The Russian Armed Forces Confront Chechnya III. The Battle for Grozny, 1-26 January 1995. Timothy L. Thomas.
<http://call.army.mil/call/fmso/fmsopubs/issues/chechpt3.htm>

Notes From Classes Occurring During Academic Year 99-00

Summary of Urban Operations Working Group Conference, Fort Leavenworth, KS: 5-6 October, 1996.

ENDNOTES

¹ James Ciment and Immanuel Ness, *The Encyclopedia of Global Population and Demographics, Volume I*, (Armonk, NY: M.E. Sharpe Inc, 1999), 3-81.

² Ibid.

³ Ibid.

⁴ Ibid.

⁵ Ibid., 23-32.

⁶ Rick Megahan, *Dragon in the City: Joint Power Protection and Joint Urban Operations*, (Unpublished monograph, Carlisle Barracks, PA: US Army War College, 1999), 21-22.

⁷ Department of the Army, *FM 90-10-1, An Infantryman's Guide to Combat in Built-Up Areas*, (Washington D.C.: US Government Printing Office, 1993), 1-2.

⁸ Steven P. Goligowski, *Operational Art and Military Operations on Urbanized Terrain*, (Unpublished monograph, Fort Leavenworth, KS: Advanced Military Studies Program, School of Advanced Military Studies, 1994), 8-9.

⁹ Ibid., 8-9.

¹⁰ Megahan, *Dragon in the City*, 10.

¹¹ Steven P. Goligowski, *Future Combat in Urban Terrain: Is FM 90-10 Still Relevant?*, (Unpublished monograph, Fort Leavenworth, KS: Advanced Military Studies Program, School of Advanced Military Studies, 1994), 9.

¹² Department of the Army, *FM 101-5-1, Operational Terms and Graphics*, (Washington D.C.: US Government Printing Office, 1997), 1-73.

¹³ Ibid., 1-36.

¹⁴ Ibid., 1-111.

¹⁵ Ibid., 1-86.

¹⁶ Ibid., 1-12.

¹⁷ Ibid., 1-55.

¹⁸ Department of the Army, *FM 90-10, Military Operations on Urbanized Terrain*, (Washington D.C.: US Government Printing Office, 1979), I.

¹⁹ Ibid., I.

²⁰ Ibid., 2-13, 2-14.

²¹ Ibid., 2-1.

²² Ibid., 1-2.

²³ Department of the Army, *FM 7-10, The Infantry Rifle Company*, (Washington D.C.: US Government Printing Office, 1990), 2-19--2-22.

²⁴ *FM 101-5-1, Operational Terms and Graphics*, 1-29.

²⁵ *FM 90-10, Military Operations on Urbanized Terrain*, 4-1.

²⁶ The definition of constraint: Restrictions placed on a command by a higher command to dictate an action or inaction, thus restricting the freedom of action the subordinate commander has for planning a mission by stating things that must or must not be done. A limitation is a control measure, instruction or order that restricts freedom

of action. *FM 101-5-1, Operational Terms and Graphics*. (Washington D.C.: US Government Printing Office, 1997), 1-37, 1-91.

²⁷ Donald F. Roskoz and Charles H. Hash, *Changing the Mindset; Anti-Terrorism and Force Protection*, Joint Force Quarterly, 3 December 1998, 111.

²⁸ *FM 101-5-1, Operational Terms and Graphics*, 1-115.

²⁹ James J. Schneider, *Theoretical Paper Number 3, The Theory of Operational Art*, (Unpublished monograph, Fort Leavenworth, KS: Advanced Military Studies Program, School of Advanced Military Studies, 1988), 18.

³⁰ *Ibid.*, 18.

³¹ Department of the Army, *FM 100-7, Decisive Force: the Army in Theater Operations*, (Washington D.C.: US Government Printing Office, 1995), 3-0.

³² *FM 101-5-1, Operational Terms and Graphics*, 1-24.

³³ *Ibid.*

³⁴ *Theoretical Paper Number 3*, 27.

³⁵ *Ibid.*

³⁶ *Ibid.*, 28.

³⁷ *Ibid.*

³⁸ *FM 100-7, Decisive Force: the Army in Theater Operations*, 3-0,3-1

³⁹ *FM 101-5-1, Operational Terms and Graphics*, 1-111.

⁴⁰ James J. Schneider, class by author, *Theoretical Paper Number 3*, Advanced Military Studies Program class, School of Advanced Military Studies, Fort Leavenworth, Kansas, October, 1999.

⁴¹ *Ibid.*

⁴² *FM 90-10, Military Operations on Urbanized Terrain*, 2-31.

⁴³ *FM 101-5-1, Operational Terms and Graphics*, 1-86.

⁴⁴ Gregory J. Celestan, *Wounded Bear: The Ongoing Russian Military Operation in Chechnya*, (Foreign Military Studies Office, Fort Leavenworth, KS, 1996), 3.

⁴⁵ Timothy L. Thomas, *The Caucasus Conflict and Russian Security: the Russian Armed Forces Confront Chechnya, Part One, Section One: From Intervention to the Outskirts of Grozny* (Military-Political Events from 11 December to 31 December), (Foreign Military Studies Office, Fort Leavenworth, KS, 1995), 3.

⁴⁶ *Ibid.*, 4.

⁴⁷ *Ibid.*

⁴⁸ *Ibid.*

⁴⁹ *Ibid.*

⁵⁰ *Ibid.*, 4-5.

⁵¹ *Ibid.*

⁵² *Ibid.*

⁵³ Timothy L. Thomas, *The Caucasus Conflict and Russian Security: The Russian Armed Forces Confront Chechnya, Part One, Section Two: Military Activities of the Conflict During 11-31 December 1994*, (Foreign Military Studies Office, Fort Leavenworth, KS, 1995), 8-9.

⁵⁴ *Ibid.*, 2-3.

⁵⁵ Celestan, *Wounded Bear: The Ongoing Russian Military Operation in*

Chechnya, 3.

⁵⁶ Thomas, *The Caucasus Conflict and Russian Security: The Russian Armed Forces Confront Chechnya, Part One, Section Two: Military Activities of the Conflict During 11-31 December 1994*, 8-9.

⁵⁷ Ibid., 8-9.

⁵⁸ Ibid., 13.

⁵⁹ Ibid., 14.

⁶⁰ Celestan, *Wounded Bear: The Ongoing Russian Military Operation in Chechnya* 4.

⁶¹ Timothy L. Thomas, *The Caucasus Conflict and Russian Security: the Russian Armed Forces Confront Chechnya, Part One, Section One: From Intervention to the Outskirts of Grozny (Military-Political Events from 11-31 December 1994)*, (Foreign Military Studies Office, Fort Leavenworth, KS, 1995), 5-6.

⁶² Celestan, *Wounded Bear: The Ongoing Russian Military Operation in Chechnya*, 4.

⁶³ Joint History Office, *Operation Just Cause*, (Washington D.C.: HQ Department of the Army, 1995), 5-7.

⁶⁴ Ibid., 5-7.

⁶⁵ Godfrey Harris, *Invasion: The American Destruction of the Noriega Regime in Panama*. Los Angeles, CA, 1990, 27.

⁶⁶ *Operation Just Cause*, 5-7.

⁶⁷ Ibid., 5-7.

⁶⁸ Caleb Baker, Thomas Donnelly, and Margaret Roth, *Operation Just Cause: The Storming of Panama*, (New York: Macmillan, Inc., 1991), Forward.

⁶⁹ Frank Akers, *Soldiers in Panama, Stories of Operation Just Cause*. (Kansas: Center for Army Lessons Learned, 1994), 12.

⁷⁰ *Operation Just Cause*, 12-13.

⁷¹ Ibid., 29.

⁷² Ibid., 29.

⁷³ *Operation Just Cause: The Storming of Panama*, 401.

⁷⁴ *Invasion: The American Destruction of the Noriega Regime in Panama*, 28.

⁷⁵ FM 90-10, *Military Operations on Urbanized Terrain*, 2-14.